

A sedimentological, faunal and floral profile of the carbonate system off Akhziv, northern Israel

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We report here on an initial study of sedimentological, floral and faunal elements of the carbonate system of the Akhziv submarine reservation, part of a research project comparing the Recent carbonate platform off Akhziv (northern Israel) and the late Pleistocene carbonate ramp found in boreholes off Ashqelon (southern Israel). The profile presented here was constructed from data gathered from three parallel scuba diving sampling transects near the small islands of Tekhelet, Shahaf and Nahli'eli, from 30 m water depth to the shoreline. Facies zones were delineated following the analysis of the sedimentary constituents and the foraminiferal assemblages. Carbonate content and granulometry of the siliciclastic residue were also assessed.

From the preliminary results, 5 facies zones were distinguished along this profile; (1) A ~0-5 m depth nearshore environment consisting of calcareous medium sand-size eroded skeletal fragments rich with articulated algal debris of *Amphiroa* spp.; (2) A 5-12 m depth wave-sheltered zone confined by an indurated Pleistocene sandstone (Kurkar) ridge, covered by coarse carbonate sand and spherical to oblong rhodoliths of *Lithothamnion* spp. (rhodolith pavement); (3) An indurated Pleistocene sandstone ridge, 0-5 m depth, partially emerged, forming small flat islands which separate the sheltered zone from the open sea; the ridge slope is covered by thick crusts of encrusting coralline algae, and a "cup ridge" shaped ~30 cm rim of vermetid gastropods encircling the islands margins; (4) A steep rocky seaward slope down to ~30 m, covered by algal crusts of *Lithothamnion*, *Archaeolithothamnion* and tufts of *Amphiroa* and *Corallina* spp. found below 15 m. (5) A gently sloping sea bed below 30 m depth, covered by loose silty-sandy sediments with large living *Conus* sp. (gastropods).